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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,281	09/10/2003	Seiichiro Kanno	500.41374CX2	2471

20457 7590 01/12/2005

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ARLINGTON, VA 22209-9889

EXAMINER
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FUQUA, SHAWN TINA T

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/658,281		KANNO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Shawntina T. Fuqua		3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii (US5851298) in view of Jacobson et al (US6521503).

Ishii discloses a plasma processing apparatus in which a wafer (W) is mounted on an upper ceramic member (38) of a stage disposed within a vacuum chamber (2), the stage including a cooling jacket (10) with a path (12) for passing coolant liquid (column 5, lines 20-22) and the upper member (6) including a heater (16) and an electrode (14) for an electrostatic chuck (14) wherein the wafer is mounted on the upper member. Ishii does not disclose a method comprising the steps of transferring the wafer to a position corresponding to the upper member of the stage, holding the wafer at the corresponding position for a predetermined period to preheat the wafer, and mounting the wafer on the upper member so that a substantial portion of the wafer surface contacts a substantial surface of the upper member. Jacobson et al discloses a method comprising the steps of transferring the wafer to a position corresponding to the upper member of the stage, holding the wafer at the corresponding position for a predetermined period to preheat the wafer, and mounting the wafer on the upper member so that a substantial portion of the wafer surface contacts a substantial surface of the upper member (Figure 2). It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to have included the method of Jacobson et al in the apparatus of Ishii, because holding the wafer above the upper member for a predetermined time to allow the wafer to be preheated prevents the wafer from being warped.

3. Claims 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii in view of Jacobson et al as applied to claims 3-5 above, and further in view of Batchelder (US6483081).

Ishii in view of Jacobson et al discloses all of the recited subject matter except transferring wafer to a buffer room to be cooled via nitrogen gas after processing, and transferring out of the buffer room. Batchelder discloses transferring wafer to a buffer room to be cooled via nitrogen gas after processing, and transferring out of the buffer room (column 11, line 63-column 12, line17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the method of Batchelder in the apparatus of Ishii along with the preheating/heating method of Jacobson et al because, cooling the wafer in a separate buffer room via a nitrogen gas allows the chamber to be maintained at the processing temperature.

### ***Conclusion***

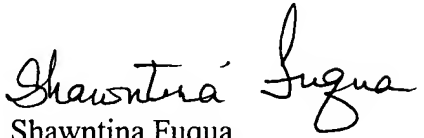
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawntina T. Fuqua whose telephone number is (571) 272-4779. The examiner can normally be reached on Monday-Friday 8-4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

stf  
January 3, 2005

  
Shawntina Fuqua  
Patent Examiner  
Art Unit 3742